

## IT IS CLAIMED:

1. A method of reducing injury to a cell exposed to an ischemic or an hypoxic condition, comprising

5 administering to the cell a  $\psi\epsilon$ RACK peptide.

2. The method of claim 1, wherein said administering occurs prior to exposing the cell to said ischemic or hypoxic condition.

10 3. The method of claim 2, wherein said administering prior to said ischemic or hypoxic condition is for a period of time of between about 1-180 minutes prior to said exposing.

15 4. The method of claim 1, wherein said administering occurs after exposing the cell to said ischemic or hypoxic condition.

5. The method of claim 4, wherein said administering after exposure to said ischemic or hypoxic condition occurs for between about 1-180 minutes after said ischemic or hypoxic condition.

20 6. The method of claim 1, wherein said administering occurs during exposure of the cell to said ischemic or hypoxic condition.

25 7. The method of claim 1 wherein said administering includes administering a peptide having a sequence identified as SEQ ID NO:2.

8. The method of claim 1, wherein said administering includes administering a peptide having a sequence selected from the group consisting of SEQ ID NOS:6-18.

30 9. The method of claim 1, wherein said administering includes administering a  $\psi\epsilon$ RACK peptide linked to a moiety effective to facilitate transport across a cell membrane.

10. The method of claim 9, wherein the moiety is selected from the group consisting of a Tat-derived peptide (SEQ ID NO:5), an Antennapedia carrier peptide (SEQ ID NO:3), and a polyarginine peptide.

5 11. The method of claim 1, wherein said administering includes administering the peptide by a route selected from the group consisting of intravenous, parenteral, subcutaneous, inhalation, intranasal, sublingual, mucosal, and transdermal.

10 12. A method of reducing injury to tissue exposed to an ischemic or an hypoxic condition, comprising

administering to the tissue a  $\psi\epsilon$ RACK peptide.

15 13. The method of claim 12, wherein said administering occurs prior to exposing the tissue to said ischemic or hypoxic condition.

14. The method of claim 13, wherein said administering prior to said ischemic or hypoxic condition is for between about 1-180 minutes.

20 15. The method of claim 12, wherein said administering occurs after exposing the tissue to said ischemic or hypoxic condition.

16. The method of claim 15, wherein said administering after exposure to said ischemic or hypoxic condition occurs for between about 1-180 minutes after said ischemic or hypoxic condition.

25 17. The method of claim 12, wherein said administering occurs during exposure of the tissue to said ischemic or hypoxic condition.

30 18. The method of claim 12, wherein said administering includes administering a peptide having a sequence identified as SEQ ID NO:2.

19. The method of claim 12, wherein said administering includes administering a peptide having a sequence selected from the group consisting of SEQ ID NOS:6-18.

20. The method of claim 12, wherein said administering includes administering a  $\psi$ eRACK peptide linked to a moiety effective to facilitate transport across a cell membrane.

5      21. The method of claim 12, wherein the moiety is selected from the group consisting of a Tat-derived peptide (SEQ ID NO:5), an Antennapedia carrier peptide (SEQ ID NO:3), and a polyarginine peptide.

10     22. The method of claim 12, wherein said administering includes administering the peptide by a route selected from the group consisting of intravenous, parenteral, subcutaneous, inhalation, intranasal, sublingual, mucosal, and transdermal.

15     23. The method of claim 12 wherein said administering is to a tissue that is a whole organ *ex vivo*.

20     24. The method of claim 12 wherein said administering is to a tissue that is a whole organ *in vivo*.

25. The method of claim 23 or 24, wherein said organ is selected from the group consisting of heart, lung, liver, brain, and kidney.

26. The method of claim 24, wherein said administering is by infusion through coronary arteries to an intact heart.